

What is claimed is:

1. A precipitated silica characterized by

BET surface area	178 - 302 m ² /g
CTAB surface area	≥170 m ² /g
DBP number	200 - 300 g/(100 g)
Sears number V ₂	10-35 ml/(5 g)

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2. A precipitated silica as claimed in claim 1, wherein the CTAB surface area is not more than 300 m²/g.

- 10 3. A precipitated silica as claimed in either of claims 1 or 2, having a WK coefficient of ≤3.4 (ratio of the peak height of the particles which cannot be broken down by ultrasound in the size range 1.0 - 100 μm to the peak height of the broken-down particles in the size range <1.0 μm).

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4. A precipitated silica as claimed in any of claims 1 to 3, whose surfaces have been modified with organosilanes of the formulae I to III:

20 $[\text{SiR}_n^1(\text{RO})_r(\text{Alk})_m(\text{Ar})_p]_q[\text{B}]$ (I),

$\text{SiR}_n^1(\text{RO})_{3-n}(\text{Alkyl})$ (II),

or

$\text{SiR}_n^1(\text{RO})_{3-n}(\text{Alkenyl})$ (III),

where

25 B is -SCN, -SH, -Cl, -NH₂, -OC(O)CHCH₂,
-OC(O)C(CH₃)CH₂ (if q = 1) or -S_w- (if
q = 2), B being bonded chemically to
Alk,

30 R and R¹ are aliphatic, olefinic, aromatic or
arylaromatic radicals having 2-30 carbon
atoms which may optionally be
substituted by the following groups:
hydroxyl, amino, alkoxide, cyanide,
thiocyanide, halogen, sulfonic acid,

5 sulfonic ester, thiol, benzoic acid,
benzoic ester, carboxylic acid,
carboxylic ester, acrylate, meth-
acrylate, organosilane radicals, it
being possible for R and R¹ to have an
identical or different definition or
substitution,
n is 0, 1 or 2,
Alk is a divalent unbranched or branched
10 hydrocarbon radical having from 1 to 6
carbon atoms,
m is 0 or 1,
Ar is an aryl radical having from 6 to 12
carbon atoms, preferably 6 carbon atoms,
15 which may be substituted by the
following groups: hydroxyl, amino,
alkoxide, cyanide, thiocyanide, halogen,
sulfonic acid, sulfonic ester, thiol,
benzoic acid, benzoic ester, carboxylic
20 acid, carboxylic ester, organosilane
radicals,
p is 0 or 1 with the proviso that p and n
are not simultaneously 0,
q is 1 or 2,
25 w is a number from 2 to 8,
r is 1, 2 or 3, with the proviso that
 $r + n + m + p = 4$,
Alkyl is a monovalent unbranched or branched
saturated hydrocarbon radical having
30 from 1 to 20 carbon atoms, preferably
from 2 to 8 carbon atoms, and
Alkenyl is a monovalent unbranched or branched
unsaturated hydrocarbon radical having
from 2 to 20 carbon atoms, preferably
35 from 2 to 8 carbon atoms.

5. A process for preparing a precipitated silica
having a

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in which

- 5 a) an aqueous solution of an alkali metal silicate or alkaline earth metal silicate and/or of an organic and/or inorganic base with pH 7.0 - 8.5 is introduced as initial charge,
- b) waterglass and an acidifier are metered simultaneously into this initial charge with stirring at 55 - 95°C for 10 - 120 minutes,
- 10 e) the mixture is acidified with an acidifier to a pH of approximately 3.5, and
- f) the acidified mixture is filtered and dried.

- 15 6. The process as claimed in claim 5, which comprises carrying out between steps b) and e) the steps of
- c) stopping of the metered addition for 30-90 minutes, during which the temperature is maintained, and
- 20 d) simultaneous metered addition of waterglass and an acidifier at the same temperature with stirring for 20 - 120 minutes.

- 25 7. The process as claimed in claim 6, wherein the acidifier and/or the waterglass in steps b) and d) each have the same concentration or rate of addition.

- 30 8. The process as claimed in claim 6, wherein the acidifier and/or the waterglass in steps b) and d) each have a different concentration or rate of addition.

9. The process as claimed in claim 8, wherein, where the acidifier and/or the waterglass have the same

concentration in steps b) and d), their rate of addition in step d) is 125 - 140% of the rate of addition in step b).

- 5 10. The process as claimed in any of claims 5 to 9,
wherein drying is carried out using a pneumatic
conveying drier, spray drier, rack drier, belt
drier, rotary tube drier, flash drier, spin-flash
drier or nozzle tower.
- 10 11. The process as claimed in any of claims 5 to 10,
wherein drying is followed by granulation with a
roll compactor.
- 15 12. The process as claimed in any of claims 5 to 11,
wherein during steps b) and/or d) an organic or
inorganic salt is added.
- 20 13. The process as claimed in any of claims 5 to 12,
wherein the granulated or ungranulated
precipitated silicas are modified with
organosilanes in mixtures of from 0.5 to 50 parts
per 100 parts of precipitated silica, in
particular from 1 to 15 parts per 100 parts of
25 precipitated silica, the reaction between
precipitated silica and organosilane being carried
out during the preparation of the mixture (in
situ) or outside by spray application and
subsequent thermal conditioning of the mixture or
30 by mixing the organosilane and the silica
suspension with subsequent drying and thermal
conditioning.
- 35 14. Elastomer blends, vulcanizable rubber blends or
vulcanizates comprising the precipitated silica of
any of claims 1 to 4.

15. Tires comprising precipitated silica as claimed in any of claims 1 to 4.
- 5 16. Tires for commercial vehicles, comprising precipitated silica as claimed in any of claims 1 to 4.
- 10 17. Motorbike tires comprising precipitated silica as claimed in any of claims 1 to 4.
18. Tires for high-speed vehicles, comprising precipitated silica as claimed in any of claims 1 to 4.